

- b. Growth rings about $\frac{1}{8}$ in. broad; resin ducts very small, few; western wood.
Engelman's Spruce. (*Picea Engelmanni*.)
- 57 a. Average growth rings less than $\frac{1}{8}$ in. broad; cells often just visible with the magnifier in cross section; western woods..... 58.
 b. Average growth rings more than $\frac{1}{8}$ in. broad..... 59.
- 58 a. Very small resin ducts appearing as tiny specks in cross section when wood is wet.....**Engelman's Spruce.** (*Picea Engelmanni*.)
 b. No resin ducts present.....**Red Firs.** (*Abies*.)
- 59 a. Wood whitish, comparatively soft and light; eastern wood.
Balsam Fir. (*Picea balsamea*.)
 b. Wood dingy colored or with reddish tinge..... 60.
- 60 a. Growth rings regular in width, about $\frac{1}{8}$ in. broad; wood of fine texture; western species.....**Western White Firs.** (*Abies*.)
 b. Growth rings usually variable in width; wood of rather coarse texture, often silvery on longitudinal section..... 61.
- 61 a. Eastern wood; spring wood light-flesh-color when wet; wood splintery.
Eastern Hemlock. (*Tsuga canadensis*.)
 b. Western wood; spring wood dark-flesh-color when wet; summer wood buff-colored on radial section.....**Western Hemlock.** (*Tsuga Mertensiana*.)
- COLUMBIA UNIVERSITY.

THE FLORA OF NORTHAMPTON COUNTY, PENNSYLVANIA

BY WILBUR L. KING

(Continued from August TORREYA)

SCROPHULARIACEAE

- VERBASCUM THAPSUS L. In fields and waste places, Bethlehem. July 15, 1899.
- VERBASCUM LYCHNITIS L. In fields and waste places. (Porter.) Fairly abundant along the Canal at Raubsville (J. A. Ruth)
- VERBASCUM BLATTARIA L. Common in fields and waste places, Bethlehem.
- LINARIA LINARIA (L.) Karst. Common in fields and waste places, Bethlehem.
- ANTIRRHINUM ORONTIUM L. On ore dumps in Bethlehem Steel Co.'s yards. Reported in Bull Torrey Club, 19: 10. 1892.
- SCROPHULARIA MARYLANDICA L. In thickets along Lehigh River at Bethlehem. Aug. 5, 1899.
- SCROPHULARIA LEPORELLA Bicknell. In woods and along roadsides. (Porter.)
- CHELONE GLABRA L. In wet soil along Monocacy creek $2\frac{1}{2}$ miles north of Bethlehem. Sept. 3, 1899.
- PENTSTEMON HIRSUTUS (L.) Willd. In dry soil $\frac{1}{2}$ mile west of Freemansburg. May 29, 1897.
- PAULOWNIA TOMENTOSA (Thunb.) Baill. Escaped from cultivation along towpath $\frac{1}{2}$ mile east of Bethlehem.
- MIMULUS RIGENS L. In moist soil along Lehigh river near Bethlehem July 15, 1899.
- MIMULUS ALATUS Soland. In swamps. (Porter.)
- GRATIOLA AUREA Muhl. In sandy wet places along Delaware river and at Bethlehem. (Porter.)

- ILYSANTHES DUBIA (L.) Barnh. In wet places. (Porter.)
 ILYSANTHES ATTENUATA (Muhl.) Smal. In moist soil on banks of Lehigh river, Bethlehem. Aug. 22, 1899.
 VERONICA ANAGALLIS-AQUATICA L. In brooks and swamps along the Delaware river above Easton. (Porter.) In wet soil at Portland.
 VERONICA AMERICANA Schwein. In brooks and swamps. (Porter.)
 VERONICA SCUTELLATA L. In swamps. (Porter.)
 VERONICA OFFICINALIS L. In dry soil on Lehigh Mt.; also along Saucon creek. June 5, 1897.
 VERONICA SERPYLLIFOLIA L. In woods near Lehigh University. (J. A. Ruth.)
 VERONICA PEREGRINA L. Along roadsides, Bethlehem. May 20, 1900.
 VERONICA ARVENSIS L. In woods on Lehigh Mt., altitude 850 feet. May 30, 1900.
 VERONICA AGRESTIS L. On hillsides on Lehigh Mt. May 20, 1899.
 VERONICA HEDERAEFOLIA L. In thickets, fields and waste places. (Porter.)
 LEPTANDRA VIRGINICA (L.) Nutt. In meadows, moist woods and thickets. (Porter.)
 DASYSTOMA PEDICULARIA (L.) Benth. In rocky woods, Wind Gap. Aug. 27.
 DASYSTOMA FLAVA (L.) Wood. In woods on Lehigh Mt. July 20, 1899.
 DASYSTOMA VIRGINICA (L.) Britton. In dry or moist woods. (Porter.)
 GERARDIA PAUPERCUA (A. Gray.) Britton. In bogs and low meadows along Delaware river above Easton. (Porter.)
 GERARDIA TENUIFOLIA Vahl. In dry woods, Nazareth. Sept. 7, 1901.
 CASTILLEJA COCCINEA (L.) Spreng. In meadows in Lower Saucon township.
 PEDICULARIS CANADENSIS L. In woods on Lehigh Mt. May 20, 1899.
 MELAMPYRUM LINEARE Lam. In dry woods, Nazareth.

LENTIBULARIACEAE

- UTRICULARIA VULGARIS L. In Lehigh river at Island Park. Aug. 25, 1902.
 UTRICULARIA INTERMEDIA Hayne. In shallow water. (Porter.)

OROBANCHACEAE

- THALESIA UNIFLORA (L.) Britton. In thickets along Lehigh river $1\frac{1}{2}$ mile east of Bethlehem. June 3, 1899.
 OROBANCHE MINOR J. E. Smith. Parasitic on roots of clover. (Porter.)
 LEPTAMNIUM VIRGINIANUM (L.) Raf. In beech woods. (Porter.)

BIGNONIACEAE

- CATALPA CATALPA (L.) Karst. In wood land along Lehigh river between Bethlehem and Freemansburg. June 25, 1898.

ACANTHACEAE

- RUELLIA STREPENS L. In dry woods. (Porter.)

PHRYMACEAE

- PHRYMA LEPTOSTACHYA L. In woods on Lehigh Mt. near Lehigh University. Altitude 800 feet. July 1, 1899.

PLANTAGINACEAE

- PLANTAGO MAJOR L. In waste places, fields and lawns. Common.
 PLANTAGO RUGELII Dec. In fields, woods and waste places. (Porter.)
 PLANTAGO LANCEOLATA L. In fields and waste places, Bethlehem.
 PLANTAGO ARISTATA Michx. Adventive as a weed on campus of Lafayette College. (Porter.)
 PLANTAGO VIRGINICA L. In dry fields on Lehigh Mt. Altitude 850 feet. May 8, 1897.

RUBIACEAE

- HOUSTONIA COERULEA L. In grassy fields near Bethlehem; also at Nazareth. Apr. 30, 1896.
- HOUSTONIA LONGIFOLIA Gaertn. In dry open places. (Porter.)
- CEPHALANTHUS OCCIDENTALIS L. In moist soil on Calypso Island. Aug. 7, 1900.
- MITCHELLA REPENS L. In woods at Nazareth. June 15.
- DIODIA TERES Walt. In dry or sandy soil. (Porter.)
- GALIUM MOLLUGO L. In fields and waste places. (Porter.)
- GALIUM APARINE L. In various situations; frequent at Bethlehem. (J. A. Ruth.)
- GALIUM PILOSUM Ait. In dry or sandy soil. (Porter.)
- GALIUM LANCEOLATUM Torr. North of Bethlehem, June 16, 1905; on Lehigh Mt. near Lehigh University, 1891. (G. W. Caffrey.)
- GALIUM CIRCAEZANS Michx. North of Bethlehem, June 16, 1905. (G. W. Caffrey.)
- GALIUM BOREALE L. In rocky soil or along streams. (Porter.)
- GALIUM TRIFLORUM Michx. North of Bethlehem, June 16, 1905. (G. W. Caffrey.)
- GALIUM CLAYTONII Michx. In meadows along Saucon creek two miles from its mouth. Sept. 4, 1900.
- GALIUM ASPRELLUM Michx. In meadows along Saucon creek. Sept. 4, 1900.
- SHERARDIA ARVENSIS L. On ore dumps on Bethlehem Steel Co.'s yards. Reported in Bull. Torrey Club 19: 10. 1892.

CAPRIFOLIACEAE

- SAMBUCUS CANADENSIS L. In fields and along Lehigh river; in Monocacy valley.
- SAMBUCUS PUBENS Michx. In rocky woods near Wind Gap.
- VIBURNUM ACERIFOLIUM L. In dry woods. (Porter.)
- VIBURNUM PUBESCENS (Ait.) Pursh. In rocky woods. (Porter.)
- VIBURNUM DENTATUM L. In moist soil. (Porter.)
- VIBURNUM LENTAGO L. In rich soil along Saucon creek.
- VIBURNUM PRUNIFOLIUM L. In thickets along Monocacy creek. June, 1897.
- TRIOSTEUM PERFOLIATUM L. In rich soil. (Porter.)
- SYMPHORICARPOS RACEMOSUS Michx. In rocky places and on river shores. (Porter.)
- SYMPHORICARPOS SYMPHORICARPOS (L.) MacM. Along rivers and in rocky places, escaped. (Porter.)
- LONICERA DIOICA L. In rocky and usually dry situations. (Porter.)
- LONICERA SEMPERVIRENS L. In low ground or on hillsides. (Porter.)
- LONICERA JAPONICA Thunb. Escaped from cultivation. (Porter.)
- LONICERA TATARICA L. Escaped from cultivation. (Porter.)
- DIERVILLA DIERVILLA (L.) MacM. In rocky situations on Lehigh Mt., June 16, 1905. (G. W. Caffrey.)

VALERIANACEAE

- VALERIANELLA LOCUSTA (L.) Bettke. In meadows along Saucon creek. June 1, 1900.
- VALERIANELLA RADIATA (L.) Dufur. In wet meadows along Monocacy near Bethlehem, May 13, 1897; also along Saucon creek.

DIPSACACEAE

- DIPSACUS SYLVESTRIS Huds. In waste places. (Porter.)

CUCURBITACEAE

- MICRAMPELIS LOBATA (Michx.) Greene. In thickets and waste places. Bethlehem. Aug. 20, 1898.
- SICYOS ANGULATUS L. In moist places, Bethlehem. Aug. 12, 1899.

CAMPANULACEAE

- CAMPANULA ROTUNDIFOLIA L. On moist rocks and in meadows. (Porter.)
 CAMPANULA APARINOIDES Pursh. In wet meadows along Monocacy creek.
 Aug. 12, 1899.
 LEGOUZIA PERFOLIATA (L.) Britton. In dry soil near Freemansburg.
 LOBELIA CARDINALIS L. In moist soil near Nazareth.
 LOBELIA SYPHILITICA L. In Saucon and Monocacy valleys, Oct. 3, 1896;
 also in moist soil at Island Park, Aug. 25.
 LOBELIA SPICATA Lam. In fields between Bethlehem and Easton (J. A. Ruth);
 in dry rocky soil on Lehigh Mt., July 1, 1899.
 LOBELIA INFLATA L. In dry fields, Bethlehem. Oct. 20, 1897.

CICHORIACEAE

- CICHORIUM INTYBUS L. Along roadsides on outskirts of Bethlehem, it hav-
 ing been cultivated by the early Moravians; also at Island Park. Aug.
 25, 1902.
 CICHORIUM INTYBUS DIVARICATUM DC. Associated with the preceding.
 LAPSANA COMMUNIS L. Along roadsides and in waste places, Easton. (Por-
 ter.)
 ADOPOGON VIRGINICUM (L.) Kuntze. In woods on Lehigh Mt. near South
 Bethlehem. May 30, 1900.
 ADOPOGON CAROLINIANUM (Walt.) Britton. In dry sandy soil.
 LEONTODON AUTUMNALE L. In fields at Seidersville. (Bull. Torrey Club,
 16: 24. 1889.)
 LEONTODON NUDICAULE (L.) Porter. In waste places, Seidersville. (Britton
 & Brown Ill. Flora 3, 3: 266.)
 PICRIS HIERACIOIDES L. In waste places, Seidersville. Bull. (Torrey Club,
 16: 24. 1889.)
 TRAGOPOGON PORRIFOLIUS L. In fields and waste places, Bethlehem.
 TARAXACUM TARAXACUM (L.) Karst. Common everywhere.
 TARAXACUM ERYTHROSPERMUM Andrz. In fields and roadsides, Bethlehem.
 May 4, 1902.
 SONCHUS ARVENSIS L. In low grounds, fields and roadsides. (Porter.)
 SONCHUS ASPER (L.) All. In fields and waste places. (Porter.)
 LACTUCA SCARIOLA L. In fields and waste places, Bethlehem. Aug. 12, 1899.
 Some years ago it was very abundant in the Lehigh Valley in this and
 Lehigh county but for the last several years it has not been as plentiful.
 LACTUCA CANADENSIS L. In moist open places. (Porter.)
 LACTUCA SAGITTIFOLIA Ell. In dry open soil. (Porter.)
 LACTUCA VILLOSA Jacq. In thickets. (Porter.)
 LACTUCA FLORIDANA (L.) Gaertn. In moist open places. (Porter.)
 LACTUCA SPICATA (Lam.) Hitchc. Along roadsides, Bethlehem. Aug. 12,
 1899.
 CREPIS VIRENS L. In fields and waste places, Easton. (Porter.)
 CREPIS BIENNIS L. In waste places, Easton. (Porter.)
 HIERACIUM PILOSELLA L. In door yards and fields, Easton. (Porter.)
 HIERACIUM VENOSUM L. In woods on Lehigh Mt.
 HIERACIUM MARIANUM Willd. In dry woods and thickets. (Porter.)
 HIERACIUM SCABRUM Michx. In dry woods and clearings. (Porter.)
 HIERACIUM GRONOVII L. In dry soil. (Porter.)
 NABALUS ALTISSIMUS (L.) Hook. In woods and thickets. (Porter.)
 NABALUS ALBUS (L.) Hook. In woods. (Porter.)
 NABALUS SERPENTARIUS (Pursh.) Hook. In fields and thickets. (Porter.)
 NABALUS TRIFOLIATUS Cass. In woods and thickets on Lehigh Mt.

AMBROSIACEAE

- AMBROSIA TRIFIDA L. In moist soil, Bethlehem. Aug. 5, 1899. Also at
 Portland.
 AMBROSIA TRIFIDA INTEGRIFOLIA (Muhl.) T. & G. In moist soil, Bethlehem.

- AMBROSIA ARTEMISIAEFOLIA L. In dry fields and waste places, Bethlehem. Aug. 30, 1898.
 XANTHIUM SPINOSUM L. On ore dumps in Bethlehem Steel Co.'s yards. Reported in Bull. Torrey Club 19: 10. 1892.
 XANTHIUM GLABRATUM (D.C.) Britton. In waste places, Bethlehem. Oct. 1896.
 XANTHIUM PENNSYLVANICUM Wallr. In open places. (Porter.)
 XANTHIUM ECHINATUM Murr. On river shores. (Porter.)

COMPOSITAE

- VERNONIA GLAUCA (L.) Britton. In thickets near Bethlehem. Sept. 7, 1899.
 EUPATORIUM MACULATUM L. In moist soil. (Porter.)
 EUPATORIUM MACULATUM AMOENUM (Pursh) Britton. In dryer places. (Porter.)
 EUPATORIUM PURPUREUM L. In moist soil. (Porter.)
 EUPATORIUM TRIFOLIATUM L. In moist soil, Easton. (Porter.)
 EUPATORIUM SESSILIFOLIUM L. In dry woods. (Porter.)
 EUPATORIUM VERBENAEFOLIUM Michx. In moist soil. (Porter.)
 EUPATORIUM PERFOLIATUM L. In wet places along Monocacy creek.
 EUPATORIUM AGERATOIDES L. f. In woods on Lehigh Mt. Sept. 22, 1898.
 EUPATORIUM AROMATICUM L. In rocky soil on Lehigh Mt. Sept. 22, 1898.
 MIKANIA SCANDENS (L.) Kuntze. In swamps and moist soil. (Porter.)
 KUHNIA EUPATORIOIDES L. In dry soil. (Porter.)
 LACINARIA SPICATA (L.) Kuntze. In moist soil. (Porter.)
 SOLIDAGO SQUARROSA Muhl. In rocky soil. (Porter.)
 SOLIDAGO CAESIA L. In woods and thickets on Lehigh Mt. Sept. 22, 1898.
 SOLIDAGO FLEXICAULIS L. In rich woods. (Porter.)
 SOLIDAGO BICOLOR L. In dry shaded soil, Lehigh Mt. Sept. 22, 1898.
 SOLIDAGO SPECIOSA Nutt. On limestone rocks on both sides of Delaware river at Easton. (Porter.)
 SOLIDAGO ODORA Ait. In dry soil. (Porter.)
 SOLIDAGO RUGOSA Mill. In dry soil, Lehigh Mt. Sept. 22, 1898.
 SOLIDAGO PATULA Muhl. In swamps. (Porter.)
 SOLIDAGO ULMIFOLIA Muhl. In woods and copses. (Porter.)
 SOLIDAGO JUNCEA Ait. In dry and rocky soil. (Porter.)
 SOLIDAGO ARGUTA Ait. In woods, Lehigh Mt. Sept. 22, 1898.
 SOLIDAGO SEROTINA Ait. In moist soil. (Porter.)
 SOLIDAGO SEROTINA GIGANTEA (Ait.) Gray. With the type. (Porter.)
 SOLIDAGO CANADENSIS L. Usually in dry soil. (Porter.)
 SOLIDAGO CANADENSIS SCABRIUSCULA (Porter.) (Porter.)
 SOLIDAGO NEMORALIS Ait. In dry soil. Bethlehem.
 SOLIDAGO RIGIDA L. On limestone rocks on both sides of Delaware river at Easton. (Porter.)
 EUTHAMIA GRAMINIFOLIA (L.) Nutt. In fields, Bethlehem. Aug. 20, 1898. This plant is frequently infested with the black blister beetle.
 BELLIS PERENNIS L. In waste places. (Porter.)
 SERICOCARPUS ASTEROIDES (L.) B.S.P. In dry woods. (Porter.)
 ASTER DIVARICATUS L. In shaded situations, Bethlehem. Oct. 1896.
 ASTER DIVARICATUS CYMULOSUS Burgess. In woods. (Porter.)
 ASTER CLAYTONIA Burgess. In sunny or slightly shaded rocky places. (Porter.)
 ASTER CURVESCENS Burgess. In loose moist shaded soil. (Porter.)
 ASTER SCHREBERI Nees. In borders of woods and shaded fence rows. (Porter.)
 ASTER MACROPHYLLUS L. In moderately dry soil and in shaded places. (Porter.)
 ASTER ROSCIDUS Burgess. In slight shade and in rich cleared soil or woodlands. (Porter.)
 ASTER CORDIFOLIUS L. In woods and in dry soil, Bethlehem.
 ASTER CORDIFOLIUS POLYCEPHALUS Porter. At Easton, Oct. 1888. (Porter.)

- ASTER CORDIFOLIUS LOWRIEANUS. (Porter.) In woods near Bethlehem and along Lehigh canal.
 ASTER CORDIFOLIUS LANCIFOLIUS (Porter.) In woods. (Porter.)
 ASTER CORDIFOLIUS BICKNELLII Porter. In woods. (Porter.)
 ASTER SAGITTIFOLIUS Willd. In dry soil. (Porter.)
 ASTER UNDULATUS L. In dry soil, Bethlehem. (J. A. Ruth.)
 ASTER PATENS Ait. In dry soil, Bethlehem. Oct., 1897.
 ASTER PHLOGIFOLIUS Muhl. In open woods between Bethlehem and Easton. July 12, 1905. (J. A. Ruth.)
 ASTER NOVAE-ANGLIAE L. In fields and along swamps. (Porter.)
 ASTER AMETHYSTINUS Nutt. In moist soil along Delaware river. (Porter.)
 ASTER PUNICEUS L. In swamps. (Porter.)
 ASTER PATULUS Lam. Bethlehem. (Porter.)
 ASTER PRENANTHOIDES Muhl. In moist soil. (Porter.)
 ASTER PRENANTHOIDES PORRECTIFOLIUS Porter. (Porter.)
 ASTER LAEVIS L. Usually in dry soil. (Porter.)
 ASTER LAEVIS AMPLIFOLIUS Porter. (Porter.)
 ASTER RADULA Ait. In swamps. (Porter.)
 ASTER ACUMINATUS Michx. In moist woods. (Porter.)
 ASTER DUMOSUS L. In sandy soil, Bethlehem. (Porter.)
 ASTER SALICIFOLIUS Lam. In moist soil. (Porter.)
 ASTER SALICIFOLIUS SUBASPER (Lindl.) A. Gray. (Porter.)
 ASTER PANICULATUS Lam. Along fences and fields. (Porter.)
 ASTER PANICULATUS ACUTIDENS Burgess. (Porter.)
 ASTER TRADESCANTI L. In fields and swamps. (Porter.)
 ASTER ERICOIDES L. In fields along Monocacy creek.
 ASTER LATERIFLORUS (L.) Britton. In dry soil near Bethlehem. Oct. 1896.
 ASTER LATERIFLORUS GLOMERELLUS (T. & G.) Burgess. (Porter.)
 ASTER LATERIFLORUS THYRSOIDEUS (A. Gray) Sheldon. (Porter.)
 ASTER LATERIFLORUS GRANDIS Porter. (Porter.)
 ASTER LATERIFLORUS HORIZONTALIS (Desf.) Burgess. (Porter.)
 ASTER VIMINEUS Lam. In moist soil. (Porter.)
 ASTER VIMINEUS COLUMBIANUS Britton. (Porter.)
 ASTER MULTIFLORUS Ait. In dry open places. Abundant on both sides of Delaware river at Easton. (Porter.)
 ERIGERON PULCHELLUS Michx. On hillsides along Monocacy valley two miles north of Bethlehem. May 12, 1897.
 ERIGERON PHILADELPHICUS L. In fields and woods. (Porter.)
 ERIGERON ANNUUS (L.) Pers. In fields, common. Bethlehem. July 10, 1899. At Portland, July 4, 1912.
 ERIGERON RAMOSUS (Walt.) B.S.P. In fields. (Porter.)
 ERIGERON ACRIS L. On ore dumps on Bethlehem Steel Co.'s yards. Reported in Bull. Torrey Club 19: 10. 1892.
 LEPTILON CANADENSE (L.) Britton. In dry fields, Bethlehem. Aug. 12, 1899.
 DOELLINGERIA UMBELLATA (Mill.) Nees. In moist soil. (Porter.)
 DOELLINGERIA INFIRMA (Michx.) Greene. In dry, usually rocky soil. (Porter.)
 IONACTIS LINARIIFOLIUS (L.) Greene. In dry or rocky soil. (Porter.)
 ANTENNARIA NEODIOICA Greene. In dry shady places. (Porter.)
 ANTENNARIA NEGLECTA Greene. In fields and pastures. (Porter.)
 ANTENNARIA PLANTAGINIFOLIA (L.) Richards. In woods, Lehigh Mt. April 28, 1897.
 ANAPHALIS MARGARITACEA (L.) Benth. & Hook. In dry soil between Bethlehem and Nazareth and on Lehigh Mt. near Lehigh University, altitude 850 feet.
 GNAPHALIUM OBTUSIFOLIUM L. In dry soil, Bethlehem.
 GNAPHALIUM ULIGINOSUM L. In damp soil. (Porter.)
 GNAPHALIUM PURPUREUM L. In dry sandy soil. (Porter.)
 INULA HELENIUM L. On roadsides and in fields. (Porter.)
 INULA VISCOSA Desf. On ore dumps in Bethlehem Steel Co.'s yards. Reported in Bull. Torrey Club 19: 10. 1892.
 POLYMNIA UVEDALIA L. In rich woods near Easton. (Porter.)

- HELIOPSIS HELIANTHOIDES* (L.) B.S.P. In open places. (Porter.)
HELIOPSIS SCABRA Dunal. Usually in dry soil. (Porter.)
RUDBECKIA HIRTA L. In fields along Lehigh canal east of Bethlehem; on Lehigh Mt. ascending 850 feet; June 17, 1896.
RUDBECKIA LACINIATA L. In meadows along Monocacy creek. Aug. 12, 1899.
HELIANTHUS ANNUUS L. In waste grounds; escaped. Bethlehem.
HELIANTHUS PETIOLARIS Nutt. In dry soil, Bethlehem. (Porter.)
HELIANTHUS GIGANTEUS L. In swamps and wet meadows. (Porter.)
HELIANTHUS DIVARICATUS L. In woodland, Lehigh Mt. July 23, 1911. Altitude 850 feet.
HELIANTHUS DECAPETALUS L. In moist soil along Lehigh river 1 mile east of Bethlehem. Sept. 4, 1899. At Portland, July 4, 1912.
HELIANTHUS TRACHELIIFOLIUS Mill. In dry soil. (Porter.)
HELIANTHUS STRUMOSUS L. In dry woods and on banks. (Porter.)
HELIANTHUS STRUMOSUS MACROPHYLLUS (Willd.) Britton. (Porter.)
HELIANTHUS HIRSUTUS Raf. In dry soil. (Porter.)
HELIANTHUS TUBEROSUS L. In fields and along roadsides, Bethlehem. Sept. 7, 1899.
VERBESINA ALTERNIFOLIA (L.) Britton. In rich soil. (Porter.)
COREOPSIS TINCTORIA Nutt. In moist soil. (Porter.)
COREOPSIS VERTICILLATA L. Escaped. (Porter.)
BIDENS LAEVIS (L.) B. S. P. In swamps along Monocacy creek. Sept. 28, 1896.
BIDENS CERNUA L. In swamps along Monocacy creek near Bethlehem. Sept. 28, 1896. (J. A. Ruth.)
BIDENS CONNATA Muhl. In swamps and moist soil. (Porter.)
BIDENS COMOSA (A. Gray) Wiegand. In wet soil. (Porter.)
BIDENS DISCOIDEA (T. & G.) Britton. On the Delaware river above Easton. (Porter.) In moist soil along Lehigh canal between Bethlehem and Freemansburg. Sept. 4, 1899.
BIDENS FRONDOSA L. In waste grounds, Bethlehem. Sept. 4, 1899.
BIDENS VULGATA Greene. In moist soil. (Porter.)
BIDENS BIPINNATA L. In moist soil along Lehigh canal east of Bethlehem. Sept. 4, 1899.
GALINSOGA PARVIFLORA Cav. Along roadsides, Bethlehem. Oct. 20, 1897.
GALINSOGA PARVIFLORA HISPIDA DC. In waste places and along roadsides, Bethlehem.
HELENIUM AUTUMNALE L. In meadows and moist places along Monocacy creek, Sept. 5; at Island Park, Aug. 25; also in Saucon valley. Flowers generally infested by a small cuculio.
ACHILLEA MILLEFOLIUM L. In waste places, roadsides and fields, Bethlehem. Sept. 28, 1896. At Portland, July 4, 1912.
ANTHEMIS COTULA L. In waste places, Bethlehem. July 10, 1899.
ANTHEMIS ARVENSIS L. In fields and waste places. (Porter.)
CHRYSANTHEMUM LEUCANTHEMUM L. In meadows and hillsides in Saucon and Monocacy valleys and in Lehigh valley. Ascends Lehigh Mt. 850 feet. June 12, 1896. At Portland, July 4, 1912.
CHRYSANTHEMUM PARTHENIUM (L.) Pers. In waste places, escaped. (Porter.)
CHRYSANTHEMUM PROCUMBENS Rich. On ore dumps in Bethlehem Steel Co.'s yards. Reported in Bull. Torrey Club 19: 10. 1892.
TANACETUM VULGARE L. Along roadsides. Escaped. (Porter.)
ARTEMISIA ANNUA L. In waste places. (Porter.)
ARTEMISIA VULGARIS L. In waste places, Bethlehem. (Porter.)
TUSSILAGO FARFARA L. In damp, shaded soil, Bethlehem. April 27, 1897.
PETASITES PETASITES (L.) Karst. In waste grounds, Bangor. (Porter.)
ERECHTITES HIERACIFOLIA (L.) Raf. In woodlands, thickets and waste places. (Porter.) In woods near South Bethlehem. (J. A. Ruth.)
MESADENIA RENIFORMIS (Muhl.) Raf. In woods. (Porter.)
MESADENIA ATRIPLICIFOLIA (L.) Raf. In woods. (Porter.)

- SENECIO OBOVATUS Muhl. In moist soil and on banks. (Porter.)
 SENECIO OBOVATUS ELONGATUS (Pursh.) Britton. On moist shaded banks, Easton. (Porter.)
 SENECIO BALSAMITAE Muhl. In dry and rocky soil. (Porter.)
 SENECIO AUREUS GRACILIS (Pursh.) Britton. In meadows along Saucon creek two miles from its mouth May 12, 1896.
 ARCTIUM MINUS Schk. In waste places, Bethlehem and Portland.
 CARDUUS LANCEOLATUS L. In waste places, Bethlehem.
 CARDUUS DISCOLOR (Muhl.) Nutt. In dry soil along roadsides and in fields between Bethlehem and Freemansburg. Sept. 4, 1899.
 CARDUUS MUTICUS (Michx.) Pers. In swamps and moist soil. (Porter.)
 CARDUUS ARVENSIS (L.) Robs. Along roadsides and fields, Bethlehem.
 CENTAUREA CYANUS L. In waste places along Monocacy creek one-half mile north of Bethlehem. June 20, 1901.

SUMMARY

The following fifteen families are represented by twenty or more species in each family or an aggregate of 732 species. This is more than half the flora of the county, although it covers less than twelve per centum of the families. It will be noted that the Compositae and Graminae are the leading families.

	Number of Species
Naiadaceae.....	21
Gramineae.....	111
Cyperaceae.....	87
Polygonaceae.....	25
Caryophyllaceae.....	28
Ranunculaceae.....	27
Cruciferae.....	42
Rosaceae.....	35
Papilionaceae.....	50
Violaceae.....	20
Umbelliferae.....	28
Labiatae.....	49
Scrophulariaceae.....	33
Cichoriaceae.....	31
Compositae.....	145

The flora of the county is made up as follows:

Number of families represented.....	128
Number of genera represented.....	523
Number of introduced species.....	307
Total number of species.....	1,304